

IN THE CLAIMS

1 1. (Currently Amended) A double-stranded conducting polymer, said polymer selected  
2 from the group consisting of Polyaniline:Poly(vinylphosphate) double-stranded complex,  
3 Polyaniline:Poly(vinylphosphate) double-stranded complex, Polyaniline:Poly(acrylic acid-co-  
4 vinylphosphate) complex, Polyaniline:Poly(methacrylic acid-co-vinylphosphate) complex,  
5 Polypyrrole:Poly(vinylphosphate) double-stranded complex, Polypyrrole:Poly(acrylic acid-co-  
6 vinylphosphate) complex, Polypyrrole:Poly(vinylmethacrylic acid-co-vinylphosphate complex  
7 Polyaniline:Poly(butylacrylate-co-vinylphosphate) complex, and Polypyrrole:Poly  
8 (butylacrylate-co-vinylphosphate) complex such that said polymer is dispersible in an aqueous  
9 and non-aqueous solvent.

1 2. (Original) The double-stranded conducting polymer of claim 1, wherein a first strand  
2 is a reversible electron donor or acceptor.

1 3. (Original) The double-stranded conducting polymer of claim 1, wherein a second  
2 strand includes the integration of appropriate ligands.

1 4. (Original) The double-stranded conducting polymer of claim 2, wherein the ligand is  
2 a carboxylic or phosphate functional group.

- 1 5. (Original) A composition including a conducting polymer, said composition  
2 comprising: polyaniline or polypyrrole, Poly(vinyl butyral), molybdenum oxide or cerium oxide  
3 magnesium silicate, carbon black or lamp black, n-butyl alcohol, isopropyl alcohol, and water.
- 1 6. (Original) The composition of claim 5, further comprising phosphoric acid, water,  
2 and isopropyl alcohol.
- 1 7. (Original) A composition including a conducting polymer to treat metal surfaces to  
2 provide a stable interface for adhesive binding or coating.
- 1 8. (Original) A formulation for surface treatment reagents which includes a double-  
2 stranded conductive polymer.
- 1 9. (Currently Amended) ~~[The use of water borne double stranded conducting polymers for~~  
2 ~~as-a]~~ A surface conversion or surface treatment agent for metal surfaces, ~~[as-a]~~ an early-warning  
3 indicator for metal corrosion, ~~[as]~~ a component for a wash primer for aluminum alloys,  
4 magnesium alloys, steel and other non-noble metals, ~~[as]~~ a surface modification coating on non-  
5 metallic surfaces to catalyze deposition of decorative and functional top coatings, ~~[as]~~ an additive  
6 to improve the performance of adhesive bonding of metals, or for others that are logical  
7 extensions of the above application which comprise a water-borne double-stranded conducting  
8 polymer.

1 10. (New) The double-stranded conducting polymer of claim 1, which may be used as a  
2 coating or film substrate, such that after drying the coating or film can not be dissolved in a  
3 solvent.

1 11. (New) The double-stranded conducting polymer of claim 1, wherein the polymer is a  
2 corrosive inhibitor.